



Federal Communications Commission
Washington, D.C. 20554

August 19, 2021

Mr. William M. Wiltshire
Harris, Wiltshire & Grannis LLP
1919 M Street, NW
Suite 800
Washington, D.C. 20036
wwiltshire@hwglaw.com

Re: IBFS File No. SAT-MOD-20200417-00037; Call Signs: S2983 and S3018

Dear Mr. Wiltshire:

On July 1, 2021, Space Exploration Holdings, LLC. (SpaceX) submitted the semiannual report¹ required by paragraph 97U of the authorization of its third modification to the Starlink constellation (Third Modification Order).² To assist in the Satellite Division's review of the report, please provide the information requested below.³

1. SpaceX identified Starlink 1881 as a satellite that was screened from future deployment or removed from operations, and which is not maneuverable for purposes of collision avoidance.⁴ According to public sources, Starlink 1881 appears to be located at an altitude of approximately 480 km. The semiannual report, however, did not include Starlink 1881 in the list of satellites that have experienced disposal failures.⁵ The Third Modification Order defines a disposal failure as a satellite which "loses the capability to maneuver at a higher altitude [above its insertion altitude of 350 km or below], as this identifies satellites that present collision risks that are anomalous."⁶ Please address why Starlink 1881 was not included on the list of satellites that have experienced a disposal failure, and if it has experienced a disposal failure as defined in the Third Modification Order, please provide a discussion of assessed causes and any remedial actions SpaceX has taken.

¹ See IBFS File No. SAT-MOD-20200417-00037.

² See *Space Exploration Holdings, LLC.*, Request for Modification of the Authorization for the SpaceX NGSO Satellite System, Order and Authorization and Order on Reconsideration, FCC 21-48, at Para. 97U (rel. Apr. 27, 2021) (Third Modification Order).

³ 47 CFR § 25.111(a).

⁴ See Semiannual Report at 4.

⁵ See Semiannual Report at 5.

⁶ Third Modification Order at para. 61.

2. Similarly, Starlink 1847 is listed both as a satellite that has been screened from future deployment or removed from operations and as a satellite which has experienced a disposal failure.⁷ According to public sources, Starlink 1847 is no longer in orbit. Please provide any updates concerning the status of Starlink 1847.
3. Please provide additional information regarding the Starlink 1155 satellite which SpaceX lists as capable of maneuvering for purposes of collision avoidance based only on attitude control. Is this satellite still capable of using SpaceX's automated collision avoidance system? How effective is this maneuver capability in mitigating risk and are the threshold's for maneuver and mitigation the same as for satellites with a propulsion capability? For example, is this capability effective for mitigating risk for conjunction notices less than 48 hours before a possible collision? When is this satellite expected to re-enter the atmosphere?
4. Please provide more detailed information regarding the causes of disposal failures and the remedial actions SpaceX has taken. In particular, for the identified cause, the semi-annual report identified the particular subsystem or component, without specifying the specific failure mechanism. Please also indicate whether the identified causes are ones for which other spacecraft could be at risk of failure, and if so, discuss in greater detail implications for possible failure rates of other spacecraft, whether already in orbit or planned for future launch, any mitigation measures taken with respect to other satellites, etc. Please also provide the dates these satellites failed and the length of time these satellites were operational before failure.
5. Please also provide any identified causes of failure and remedial action SpaceX has taken regarding the satellites which were screened from future deployment or removed from operations.

Please submit the requested information by **September 19, 2021**.

Sincerely,

Karl A. Kensinger

Karl A. Kensinger
Chief, Satellite Division
International Bureau

⁷ See Semiannual Report at 4, 5.